

# Unit 3 Warm-ups

These warm-ups should last no more than 10 -15 minutes at a time. If you run out of time, continue during the warm-up the next day. These tasks could last several days each depending on the depth of exploration, discussion and justification by students.

Students will use a calculator to find the products; however they must make sense of the solutions, of the pattern. It is not acceptable to just say add a zero; students must explain why this pattern works. They will need to use visuals tools such as drawings, base 10 blocks, virtual tools or equations, to explain why the decimal moves and why.

## **Making sense of the pattern of multiplying by 10**

- Multiplying a whole number by a power of 10 <http://www.k-5mathteachingresources.com/support-files/multiplyingawholenumberbyapowerof10.pdf>
- Multiplying a decimal by a power of 10 <http://www.k-5mathteachingresources.com/support-files/multiplyingadecimalbyapowerof10.pdf>

## **Making sense of the pattern of dividing by 10**

- Dividing a whole number by a power of 10 <http://www.k-5mathteachingresources.com/support-files/dividingawholenumberbyapowerof10.pdf>
- Dividing a decimal by a power of 10 <http://www.k-5mathteachingresources.com/support-files/dividingadecimalbyapowerof10.pdf>